



## *2014 Water Quality Report*

*For Customers in the Hampton,  
North Hampton and Rye System*

*Caring For Our Environment. Committed To Our Communities.*



## Your Health Is Our Priority

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline **(800-426-4791)**.

Here is some additional information of interest about Aquarion's drinking water.

### **Where does your water come from?**

Water is pumped from 17 state-approved wells in Hampton, North Hampton, Rye and Stratham. It is delivered to you through an extensive underground piping system.

The water supply serves about 20,000 residents in the service area, plus thousands of visitors and tourists. In 2014, our wells supplied an average of 2.2 million gallons of water per day to the system.

### **How is your water treated?**

Water from the wells is naturally filtered ground water that is disinfected and adjusted for corrosion control.

### **Copper and Lead**

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level\* over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Major sources of copper in drinking water include corrosion of household plumbing systems and erosion of natural deposits.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. Aquarion Water Company is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Fortunately, the Lead in Drinking Water Act, which took effect in January 2014, requires a significant reduction of the lead content in new plumbing components that contact drinking water. As a result, the lead content in new pipes, fittings, fixtures and solder must be reduced from 8% to 0.25%.

Customers can minimize the potential for lead exposure when water has been sitting for several hours by running the tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods,

and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

### **Arsenic**

While your drinking water meets the federal Environmental Protection Agency's (EPA's) standard for arsenic, some of Aquarion's wells do contain low levels of this element. Testing shows that these levels are less than the health standards set by the EPA and the New Hampshire Department of Environmental Services. Dilution in the distribution system with water from other wells further lowers arsenic concentrations at water taps.

Arsenic is a naturally occurring element in the Earth's crust, found in soil and rocks, which can enter ground water that comes in contact with these deposits. The EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The agency continues to research the health effects of arsenic, which is known to cause cancer in humans at higher concentrations. More details can be found at [epa.gov/safewater/arsenic](http://epa.gov/safewater/arsenic).

### **Immuno-compromised persons**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline **(800-426-4791)**.

### **Disinfection By-Products**

Disinfection by-products (DBPs) are chemicals formed during the disinfection process, when naturally occurring organic matter reacts with chlorine, which is added to water to eliminate bacteria and other microorganisms. Currently there are limits on two types of DBPs known as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (THAA). Some people who drink water containing DBPs that exceed these limits over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

The state has implemented new DBP regulations that change how compliance with the standards is determined. The intent is to increase protection against the potential health risks associated with DBPs. Aquarion Water Company continues to evaluate its systems to ensure compliance with DBP regulations.

\* The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

## A Message from the Vice President



John Walsh  
Vice President, Operations  
Aquarion Water Company of MA

Dear Customer:

Safe, high-quality water is essential to many things – our individual health and well-being, community property values, a strong economic base for our entire area, and the integrity of our environment.

Accordingly, in 2014 we conducted more than 1,700 tests on the water we supply to our customers in Hampton, North Hampton, and Rye. And we are proud to report that the water we supplied to you again met or surpassed each of the quality standards established by state and federal agencies.

Along with high-quality water, Aquarion is firmly committed to continuing its investment in the infrastructure. In 2014, Aquarion successfully completed the replacement of water mains on Great Boars Head, Ocean Boulevard, Twelfth Street, and Winnacunnet Road in Hampton. This investment will help improve the reliability of our service by decreasing the risk of main breaks and reducing leakage. In addition, we conducted a number of upgrades to our facilities and equipment.

Aquarion was pleased to announce early this year that our customers in New Hampshire will receive a 4% credit on their water bills for the next three years, through December 2017, as the result of a federal tax credit.

In the past year, we were pleased to support a variety of local organizations and events through sponsorships and participation. Some of the beneficiaries in 2014 included the Town of Hampton, Winnacunnet High School, Hampton Police and Fire associations, and the Blue Ocean Society.

Aquarion Water Company announced the winners of its first annual Aquarion Environmental Champion Awards during a ceremony in June 2014, at the Seashell Oceanfront Pavilion in Hampton. For more details, see article on page 6.

In closing, I'd like to thank all our employees for their excellent work in providing you with safe, clean water and dependable service. From all of us at Aquarion, it is a pleasure serving you and all of our customers in Hampton, North Hampton, and Rye.

Sincerely,

John Walsh  
Vice President, Operations  
Aquarion Water Company of MA

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## Facts and Figures



Aquarion conducts an extensive quality testing program each year to ensure our 20,000 customers in New Hampshire have safe, clean drinking water. In 2014, we collected 344 water samples, on which we conducted more than 1,700 quality tests. These tests are designed to detect and measure the presence of more than 100 compounds, many of which occur through erosion of natural deposits. Constant testing enables us to confirm that the water we supply meets or exceeds state and federal standards.

The results reported in the table on the next page demonstrate the effectiveness of our ongoing efforts to protect the purity of Aquarion water every step of the way from the source to your tap.



# Water Quality Table for the Hampton, North Hampton and Rye System

# Understanding Your Water

Your water has been tested for more than 100 compounds that are important to public health. Only 14 of these were detected, all of which were below the amounts allowed by state and federal law. Most of these compounds are either naturally occurring or introduced as treatment to improve water quality. Monitoring frequency varies

from daily to once every nine years per EPA regulation, depending on the parameter. Our testing encompasses the full range of regulated inorganic, organic and radiological compounds and microbiological and physical parameters. Results shown below are for detected compounds only.

Substance (Units of Measure)	Highest Allowed by Law		Violation	Test Date	Hampton, North Hampton and Rye System Detected Level	
	MCLG	MCL			Average	Range
<b>Inorganic Compounds</b>						
Arsenic (ppb)	0	10	NO	15 wells: 7/15 – 8/11/14 3 wells: quarterly, 2014	1	ND < 1 – 4
Barium (ppm)	2	2	NO	7/15 – 8/11/14	0.022	0.015 – 0.037
Copper (ppm)	1.3	AL = 1.3	NO	4/8 – 6/23/14	0.54*	
Fluoride (ppm)	4.0	4.0	NO	7/15 – 8/11/14	0.10	ND < 0.10 – 0.14
Lead (ppb)	0	AL = 15	NO	4/8 – 6/23/14	2**	
Nitrate (ppm)	10	10	NO	7/15 – 8/11/14	1.16	ND < 0.50 – 3.10
<b>Microbials</b>						
Total Coliform	0 positive samples per month	1 positive sample per month	NO	11/18/14	1^	0 – 1
<b>Disinfectant</b>						
Chlorine (ppm)	MRDLG 4	MRDL 4	NO	monthly, 2014	0.55	0.20 – 1.18
<b>Organic Compounds</b>						
Total Trihalomethanes (ppb)	NA	80	NO	quarterly, 2014	18***	3 – 22
Total Haloacetic Acids (ppb)	NA	60	NO	quarterly, 2014	4***	ND < 0.5 – 5
<b>Radiologicals</b>						
Combined Radium (pCi/L)	0	5	NO	7/15 – 8/11/14	ND < 1.0	ND < 1.0 – 1.2
<b>Secondary Contaminants</b>						
Chloride (ppm)	NA	SMCL = 250	NA	7/15 – 8/11/14	67.9	42.3 – 200
Sodium (ppm)	NA	SMCL = 250	NA	7/15 – 8/11/14	46.1	29.3 – 100
Sulfate (ppm)	NA	SMCL = 250	NA	7/15 – 8/11/14	26.2	11.0 – 74.1

## Footnotes, Definitions and Sources

- < Less than
- AL** Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- MCL** Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- MCLG** Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- MRDL** Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- MRDLG** Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- NA** Not Applicable
- ND** Not Detected
- pCi/L** picocuries per liter
- ppb** parts per billion, or micrograms per liter (ug/L)
- ppm** parts per million, or milligrams per liter (mg/L)
- SMCL** Secondary Maximum Contaminant Level
- \*** 90th percentile value in copper monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for copper.
- \*\*** 90th percentile value in lead monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for lead.
- \*\*\*** Reported value is the highest locational, annual average of quarterly measurements for disinfection by-products in the distribution system. Values in the range are individual measurements.
- ^** Highest level detected. Average is 0/month.

### Health Effects

**Arsenic:** While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

**Sodium:** Sodium-sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium should be aware of levels where exposures are being carefully controlled.

## Sources of Contaminants for table on left

- Arsenic:** Erosion of natural deposits.
- Barium:** Erosion of natural deposits.
- Copper:** Corrosion of household plumbing systems.
- Fluoride:** Erosion of natural deposits.
- Lead:** Corrosion of household plumbing systems.
- Nitrate:** Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
- Total Coliform:**  
Naturally present in the environment.
- Chlorine:** Water additive used to control microbes.
- Total Trihalomethanes:**  
By-product of drinking water chlorination.
- Total Haloacetic Acids:**  
By-product of drinking water chlorination.
- Combined Radium:**  
Erosion of natural deposits.
- Chloride:** Naturally present in the environment.
- Sodium:** Water treatment processes; use of road salt; naturally present in the environment.
- Sulfate:** Naturally present in the environment.



## Source Water Assessment Report

The state Department of Environmental Service's Source Water Assessment Report indicates an average of 6 contamination susceptibility factors were rated low, an average of 4 were rated medium, and 2 were rated high for 18 of our water sources. The complete report is available for inspection at our office during normal business hours at Aquarion Water Company, 7 Scott Road, Hampton, NH.

## Protecting water at the source

Even small quantities of pollutants may be enough to contaminate a drinking water supply. Examples of pollutants that may wash into surface water or seep into ground water include:

- ◆ Microbial contaminants from septic systems, agriculture and livestock operations, and wildlife;
- ◆ Inorganic contaminants such as salts and metals that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, or farming;
- ◆ Pesticides and herbicides from sources such as agriculture,
- ◆ Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes; and
- ◆ Radioactive contaminants that can be naturally occurring.

## You can help prevent water contamination

- ◆ Ensure that your septic system is working correctly.
- ◆ Use chemicals and pesticides wisely.
- ◆ Dispose of waste chemicals and used motor oil properly.
- ◆ Report illegal dumping, chemical spills, or other polluting activities to the New Hampshire Department of Environmental Services at **(603-271-3503)**, Aquarion Water **(800-732-9678)**, or your local police.

## Water conservation in your home

Our water supply is sufficient to meet your needs, but we still encourage you to conserve this precious natural resource for the good of our environment. There are plenty of simple steps you can take to reduce your water consumption: fix faucet and toilet leaks; turn off the water while shaving or brushing your teeth; run full loads in your dishwasher and clothes washer; water your lawn in early morning; and use a broom to clean debris from your driveway instead of a hose.



## Monitoring Unregulated Contaminants

Unregulated contaminants are elements that currently have no health standard for drinking water. In 2013, the EPA began a three-year monitoring program to test for up to 28 unregulated contaminants in various public water systems throughout the U.S. This table shows only the compounds detected in your system. To learn about the full list of unregulated contaminants included in the monitoring program, please call our Water Quality Department at **800-832-2373**.

Substance (Units of Measure)	Test Date	Detected Level		Source of Contaminant
		Average	Range	
<b>Unregulated Contaminants</b>				
Chlorate (ppb)	9/14	71	53 – 170	Disinfection by-product
Chromium (ppb)	9/14	0.2	*ND < 0.20 – 0.46	Naturally occurring element
Hexavalent Chromium (ppb)	9/14	0.11	0.04 – 0.26	Naturally occurring element
Strontium (ppb)	9/14	174	100 – 230	Naturally occurring element

\*Not Detected

# Your 2014 Water Quality Report

Customers who have questions about water quality should call us at **800-832-2373**; send an email to [waterquality@aquarionwater.com](mailto:waterquality@aquarionwater.com); or visit [aquarionwater.com](http://aquarionwater.com).

For other questions, or to report discolored water or other service problems, call the Water Quality Management Department at **800-732-9678**.

New Hampshire Department of Environmental Services:  
**603-271-3503** or [des.state.nh.us](http://des.state.nh.us)  
U.S. Environmental Protection Agency's Safe Drinking Water  
Hotline: **800-426-4791** or [epa.gov/safewater](http://epa.gov/safewater)

**PWS ID#: 1051010**  
Hampton, North Hampton  
and Rye System



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## Celebrating New Hampshire's Environmental Heroes

We've always known they were out there, and in 2014 we set out to find and honor them: individuals, organizations and corporations voluntarily helping protect and improve the local environment.

After a public nomination process, we soon had a list of the winners in New Hampshire's first annual Aquarion Environmental Champion Awards. They included:

- **Smuttynose Brewing Company** (Business Category): Smuttynose was honored for its efforts in designing and building its new brewery to include features that contribute to sustainable energy consumption, and other measures for all-around improved environmental sustainability.

- **North Hampton Conservation Commission** (Non-Profit Category): The commission won for its work in land conservation, which, among other accomplishments, has doubled the town's conservation land over the past decade. Recent efforts helped secure more than 60 acres of land, thereby protecting important area wetlands, drinking water aquifers and wildlife habitats.

- **Cathy Silver** (Adult Category): Cathy teaches biology at Wimmacunnet High School and won her award for her many significant contributions to environmental education and conservation. These include more than 50 field trips to help conduct beach clean-ups and data collection, and helping found the Blue Ocean Society Discovery Center.

- **Allyson McAllister**

(Student Category): Allyson received a \$1,000 award from Aquarion for her volunteer work and environmental commitment. She has worked on multiple beach clean-ups, environmental data collection and gardening projects while excelling in biology, marine biology and oceanography classes.

Nominations for this year's awards have closed, but you can watch for the announcements of our winners. The public is invited to join in honoring the winners at our awards ceremony, to take place in conjunction with the Blue Ocean Society on June 27 at the Seashell Oceanfront Pavilion in Hampton. The presentations will be followed by a beach clean-up and awards reception.



## Visit Mystic Aquarium's Beluga Whales Live!

Aquarion is the sponsor of three cameras trained on the exciting Beluga whales exhibit at Mystic Aquarium in Connecticut, the only one of its kind in New England. Go to [aquarionwater.com](http://aquarionwater.com) and click on the cameras at any time during daylight hours to watch the Aquarium's three belugas – Kela, Naku and Naluark – in the 750,000-gallon, arctic marine environment created just for them.



[aquarionwater.com](http://aquarionwater.com)